

CLAIMS

1. A filter rack for a forced air-circulating system, the filter rack comprising:
 - a plurality of longitudinal members having flanges adapted to receive and retain a filter and having channels adapted to receive and retain a connector, each longitudinal member adapted for connection to at least two other longitudinal member to form a rectangular frame;
 - a plurality of connectors adapted for insertion into corresponding channels of the longitudinal member for connecting each longitudinal member to at least one other longitudinal member.
2. The filter rack of claim 1, wherein the longitudinal members are comprised of a back member, at least two side members, and a front member.
3. The filter rack of claim 2, wherein the front member is configured to provide an opening to permit a filter to pass into the assembled filter rack and to be received and retained by flanges on the longitudinal members.
4. The filter rack of claim 3, wherein the longitudinal members are comprised of a corrosion-resistant rigid material.
5. The filter rack of claim 4, wherein the corrosion-resistant rigid material is selected from the group consisting of: plastic, composites, aluminum, and coated metal.
6. The filter rack of claim 5, wherein the rigid material is formed by extrusion to produce a longitudinal member having a predetermined cross-sectional profile.
7. The filter rack of claim 6, wherein the connectors are comprised of picture frame hardware.
8. The filter rack of claim 6, wherein the connectors are flat L-shaped connectors, and wherein the channel is provided in the rear face of each longitudinal member.
9. The filter rack of claim 8, wherein the connector further includes at least one fastener.

10. The filter rack of claim 9, wherein the at least one fastener is selected from the group consisting of bolts, screws, tabs, hook and loop type fasteners, clamps, caulking, clamps, and adhesives.
11. The filter rack of claim 8, wherein the filter rack is further comprised of a door that is attached to the at least one longitudinal member by removable attachment means.
12. The filter rack of claim 9, wherein the filter rack is further comprised of a door that is attached to at least two longitudinal members by removable attachment means.
13. The filter rack of claim 11, wherein the removable attachment means is selected from the group consisting of screws, bolts, hook and loop type fasteners, tabs, clamps, and hinges.
14. A method of assembling a filter rack for a forced air-circulating system, the method comprising:
 - providing a plurality of longitudinal members, each longitudinal member having flanges adapted to receive and retain a filter, and having channels adapted to receive and retain at least one connector, each longitudinal member adapted for connection to at least one other longitudinal member form a rectangular frame, the longitudinal members comprised of a front, at least two sides, and a back;
 - providing a plurality of connectors adapted for insertion into the channels for connecting each longitudinal member to at least one other longitudinal member; and
 - connecting each longitudinal member to at least one other longitudinal member using the plurality of connectors so as to form a rectangular frame.
15. The method of claim 14, the method further comprising the step of:
 - providing a door adapted for removable attachment to at least one longitudinal member; and
 - attaching the door adapted to at least one longitudinal member.

16. The method of claim 14, the method further comprising the step of:
providing a door adapted for removable attachment to at least two
longitudinal members; and
attaching the door to at least two longitudinal members.
17. A forced air-circulating system comprised of:
return air flow ducting having a rectangular cross-sectional geometry;
a filter rack connected to the return flow ducting, the filter rack
comprising:
a plurality of longitudinal members having flanges adapted to
receive and retain a filter and having channels adapted to engage
and retain a connector, the longitudinal members comprised of a
back member, at least two side members, and a front member,
wherein the front member is configured to provide an opening to
permit a filter to pass into the assembled filter rack and to be
received and retained by flanges on the longitudinal members,
each longitudinal member adapted for connection to at least two
other longitudinal member to form a rectangular frame;
a plurality of connectors inserted into corresponding channels
of individual longitudinal members for connecting each
longitudinal member to at least one other longitudinal member;
wherein the connectors are flat L-shaped connectors.
18. The forced air-circulating system of claim 17, wherein each connector
further includes at least one fastener.
19. The forced air-circulating system of claim 18, wherein the at least one
fastener is selected from the group consisting of bolts, screws, tabs, hook and loop
type fasteners, clamps, caulking, clamps, and adhesives.
20. The forced air-circulating system of claim 19, wherein the filter rack is
further comprised of a door that is attached to at least one longitudinal member by
removable attachment means.